

REMARKS

Claims 1-21 are pending in the Application. Claims 1, 2, 11-14 and 21 were rejected, and claims 3-10 and 15-20 were objected to, in the Office action mailed September 27, 2006. Claims 3 and 15 are amended by this response. Claims 1, 3, 12, 14 and 15 are independent claims. Claims 2 and 11, 4-10, 13, 21, and 16-20 depend from independent claims 1, 3, 12, 14 and 15, respectively.

The Applicants respectfully request reconsideration of pending claims 1-21, in light of the following remarks.

Amendments to Claims

Claim 1 has been amended to correct a noted minor typographical error. Applicants respectfully submit that no new matter is added by this amendment.

Claims 3 and 14 have been rewritten in independent form to include all of the limitations of their respective base claims and any intervening claims. Applicants respectfully submit that no new matter is added by these amendments.

Objections to Claims

Claims 3-10 and 15-20 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have rewritten claims 3 and 15 as new independent claims that include the limitations of their respective base claims 1 and 14. There are no intervening claims between claims 3 and 15, and their respective base claims 1 and 14. Therefore, Applicants respectfully submit that the objection to claims 3-10 and 15-20 has been overcome, and that claims 3-10 and 15-20 are allowable.

Rejections of Claims

Rejections Under 35 U.S.C. §102

Claims 1 and 14 were rejected under 35 U.S.C. §102(e) as being anticipated by Erstad (US 7,058,849). The Applicants respectfully traverse the rejection.

With regard to the anticipation rejections, MPEP 2131 states, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP 2131 also states, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

With regard to amended claim 1, Applicants respectfully submit that Erstad fails to teach, suggest, or disclose, at least, an electronic device having one of firmware and software stored in non-volatile memory therein, the electronic device comprising a fault-tolerant update agent employing a block-by-block memory update process, wherein the fault-tolerant update agent is capable of updating one of the firmware and software in the electronic device, and wherein the fault-tolerant update agent is capable of determining at least one last updated memory block in a previous update process during fault tolerant recovery following an interruption in an update process. Applicants respectfully submit that the Office action has failed to show where Erstad teaches or suggests, for example, “...a fault-tolerant update agent employing a block-by-block memory update process...”, as recited in Applicants’ claim 1. The term “block” may be defined as “...a quantity, number, or section of things dealt with as a unit...”. (see, e.g., Merriam Webster’s Collegiate Dictionary, Tenth Edition, 2002, page 123) Erstad is silent with respect to dealing with memory block-by-block or section-by-section, and fails to teach or suggest a fault tolerant update agent employing a block-by-block or section-by-section memory update process.

In addition, Applicants respectfully submit that Erstad fails to teach or suggest, for example, “...wherein the fault-tolerant update agent is capable of updating one of the firmware and software in the electronic device...”, as recited in Applicants’ claim 1, and that Erstad is silent with respect to updating firmware or software in non-volatile memory. Instead, Erstad teaches “[t]o checkpoint data, a signal is sent to the checkpoint enabler 120. When the

checkpoint enabler 120 is triggered, the non-volatile solid-state memory element 106 stores the data available on its input line 304, and makes that checkpointed data available on its output line 112.” (underline added)(col. 5, lines 14-18)

Applicants also respectfully submit that the Office action has failed to show where Erstad teaches “...wherein the fault-tolerant update agent is capable of determining at least one last updated memory block in a previous update process during fault tolerant recovery following an interruption in an update process...”, as recited in Applicants’ claim 1. As set forth above, the Office action fails to show where Erstad teaches or suggests dealing with memory in sections or blocks, and fails to teach or suggest a block-by-block update of one of software or firmware in non-volatile memory. Instead, Erstad teaches the checkpointing and rolling back of data into a number of non-volatile memory elements in a computer system, and that this functionality enables checkpointing and rolling back to different states of the computer system, corresponding to different times or version of the system. (col. 5, lines 47-67; col. 6, line 33 to col. 7, line 14) Erstad is silent with respect to updating of one of firmware and software in non-volatile memory.

Based at least upon the above, Applicants respectfully submit that Erstad fails to teach or suggest all of the limitations of Applicants’ claim 1, as required by M.P.E.P. §2131, and that a rejection under 35 U.S.C. §102(e) cannot be maintained.

Therefore, Applicants believe that claim 1 is allowable over Erstad. Applicants respectfully submit that claim 1 is an independent claim, and that claims 2 and 11 depend directly from claim 1. Because claims 2 and 11 depend from claim 1, Applicants respectfully submit that claims 2 and 11 are also allowable over Erstad, for at least the reasons set forth above. Applicants respectfully request, therefore, that the rejection of claim 1 under 35 U.S.C. §102(e) be withdrawn.

With regard to claim 14, Applicants respectfully submit that Erstad fails to teach, suggest or disclose, for example, a method of performing fault-tolerant updating of one of firmware and software resident in non-volatile memory in an electronic device, the method comprising performing a block-by-block update of a plurality of memory blocks in the non-volatile memory of the electronic device, wherein updated content of each memory block is backed up in a backup memory block before being written into a corresponding memory block. Applicants

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respectfully submit that the Office action has failed to show where Erstad teaches or suggests, for example, "...performing a block-by-block update of a plurality of memory blocks in the non-volatile memory of the electronic device...", as recited in Applicants' claim 14. As noted above, the term "block" may be defined as "...a quantity, number, or section of things dealt with as a unit...". Erstad is silent with respect to dealing with memory block-by-block or section-by-section, and fails to teach or suggest a block-by-block or section-by-section update of a plurality of memory blocks or sections in non-volatile memory of an electronic device. Instead, Erstad teaches the checkpointing and rolling back of data into a number of non-volatile memory elements in a computer system, and that this functionality enables checkpointing and rolling back to different states of the computer system, corresponding to different times or version of the system. (col. 5, lines 47-67; col. 6, line 33 to col. 7, line 14)

In addition, the Office action has failed to show where Erstad teaches "...wherein updated content of each memory block is backed up in a backup memory block before being written into a corresponding memory block...", as recited in Applicants' claim 14. Erstad is silent with respect to backing up updated blocks or sections of memory.

Based at least upon the above, Applicants respectfully submit that Erstad fails to teach or suggest all of the limitations of Applicants' claim 14, as required by M.P.E.P. §2131, and that a rejection under 35 U.S.C. §102(e) cannot be maintained.

Therefore, Applicants believe that claim 14 is allowable over Erstad. Applicants respectfully submit that claim 14 is an independent claim, and that claim 21 depends directly from claim 14. Because claim 21 depends from claim 14, Applicants respectfully submit that claims 21 is also allowable over Erstad, for at least the reasons set forth above. Applicants respectfully request, therefore, that the rejection of claim 14 under 35 U.S.C. §102(e) be withdrawn.

Rejections Under 35 U.S.C. §103

Claims 2 and 11-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Erstad, and further in view of Santeler et al. (US 6,223,301, hereinafter "Santeler"). The Applicants respectfully traverse the rejection.

The Applicants respectfully submit that the Examiner has failed to establish a case of *prima facie* obviousness for at least the reasons provided below. M.P.E.P. §2142 clearly states that "[t]he

examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.” The M.P.E.P. §2142 goes on to state that “[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure.”

With regard to claims 2 and 11, Applicants respectfully submit that claims 2 and 11 depend from claim 1. Applicants believe that claim 1 is allowable over the proposed combination of Erstad and Santeler, in that Santeler fails to overcome the deficiencies of Erstad, as set forth above with respect to claim 1. Because claims 2 and 11 depend from claim 1, Applicants respectfully submit that claims 2 and 11 are also allowable over the proposed combination of references, as well. Applicants respectfully request, therefore, that the rejection of claims 2 and 11 under 35 U.S.C. §103(a) be withdrawn.

With regard to claim 12, Applicants respectfully submit that the Erstad and Santeler references, taken alone or in combination, fails to teach, suggest or disclose, at least, an electronic device capable of updating one of firmware and software in a fault-tolerant update process employing a fault-tolerant update agent, the electronic device comprising a first memory block in non-volatile memory; a second memory block in non-volatile memory; a backup memory block in non-volatile memory; and random access memory (RAM), wherein the fault tolerant update agent is adapted to copy contents of the first memory block into RAM, update the RAM generating a modified contents of the first memory block, XOR contents of the second memory block into RAM, and copy modified contents of RAM into the backup memory block for fault tolerance before writing the modified contents of the first memory block from RAM into the first memory block in the non-volatile memory. More specifically, the Applicants respectfully submit that the Office action has failed to show where Erstad and/or Santeler teach or suggest, at least, “wherein the fault tolerant update agent is adapted to … update the RAM generating a modified contents of the first

memory block..." in addition to "...XOR contents of the second memory block into RAM...", as recited in Applicants' claim 12. The Office action alleges that "...Erstad substantially teaches the claimed invention as disclosed related to claim 1 above." (Office action, page 4, line 12-13) Applicants respectfully disagree. Applicants respectfully submit that neither Erstad nor Santeler, nor the combination of Erstad and Santeler teach, suggest or disclose updating one of firmware and software in memory blocks in non-volatile memory, as recited in Applicants' claim 12. Instead, Erstad teaches the checkpointing and rolling back of data into a number of non-volatile memory elements in a computer system, and that this functionality enables checkpointing and rolling back to different states of the computer system, corresponding to different times or version of the system.. (col. 5, lines 47-67; col. 6, line 33 to col. 7, line 14) Instead, Santeler teaches restoration of corrupted data in memory. (col. 2, line 13 to col. 3, line 18)

Based at least upon the above, Applicants respectfully submit that Erstad fails to teach or suggest all of the limitations of Applicants' claim 12, as required by M.P.E.P. §2142, that the Office action has failed to establish a *prima facie* case of obviousness, and that a rejection under 35 U.S.C. §103(a) cannot be maintained.

Therefore, Applicants believe that claim 12 is allowable over the combination of Erstad and Santeler. Applicants respectfully submit that claim 12 is an independent claim, and that claim 13 depends from claim 12. Because claim 13 depends from claim 12, Applicants respectfully submit that claim 13 is also allowable over the combination of Erstad and Santeler, for at least the reasons set forth above. Applicants respectfully request, therefore, that the rejection of claims 12 and 13 under 35 U.S.C. §103(a) be withdrawn.

Conclusion

In general, the Office Action makes various statements regarding claims 1-21 and the cited references that are now moot in light of the above. Thus, Applicants will not address such statements at the present time. However, Applicants expressly reserve the right to challenge such statements in the future should the need arise (e.g., if such statements should become relevant by appearing in a rejection of any current or future claim).

The Applicants believe that all of pending claims 1-21 are in condition for allowance. Should the Examiner disagree or have any questions regarding this submission, the Applicants invite the Examiner to telephone the undersigned at (312) 775-8000.

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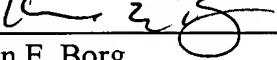
A Notice of Allowability is courteously solicited.

The Commissioner is hereby authorized to charge any additional fees required by this communication, or credit any overpayment, to Deposit Account No. 13-0017.

Respectfully submitted,

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